

## Text

- A landscaper planted 100 tulip bulbs, 150 daffodil bulbs, 200 crocus bulbs, and 350 hyacinth bulbs. What percent of the bulbs were crocus bulbs?

A.  $12\frac{1}{2}\%$

B.  $18\frac{3}{4}\%$

C. 25%

D.  $33\frac{1}{3}\%$

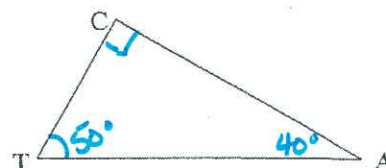
E. 40%

$$\frac{200}{100 + 150 + 200 + 350}$$

$$\frac{200}{800} = \frac{2}{8} = \frac{1}{4} = 25\%$$

C

1. In right triangle CAT, angle T is 50 degrees. What is the tan A?



A. 1.1917

B. .8391

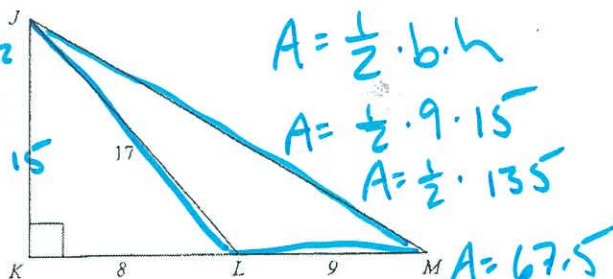
C. 88.854

D. 88.567

$$\tan(40) = .8391$$

B

55. In the figure below, the lengths of  $\overline{KL}$ ,  $\overline{JL}$ , and  $\overline{LM}$  are given, in inches. What is the area, in square inches, of triangle JML?



A. 28.6

B. 35

C. 67.5

D. 127.5

E. 135

$$A = \frac{1}{2} \cdot b \cdot h$$

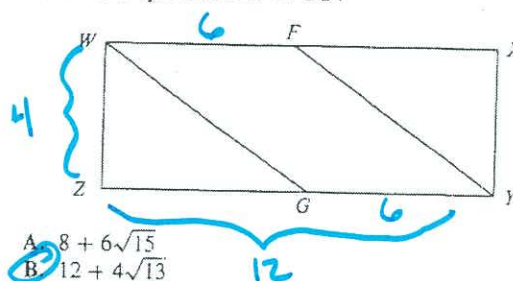
$$A = \frac{1}{2} \cdot 9 \cdot 15$$

$$A = \frac{1}{2} \cdot 135$$

$$A = 67.5$$

C

51. In the figure below, rectangle WXYZ has sides with length of 12 units and width of 4 units. Also, F and G are midpoints of  $\overline{WX}$  and  $\overline{YZ}$ , respectively. What is the perimeter, in units, of quadrilateral WFGY?



A.  $8 + 6\sqrt{13}$   
 B.  $12 + 4\sqrt{13}$   
 C.  $12 + 4\sqrt{15}$   
 D.  $16\sqrt{13}$   
 E. 40

B

$$4^2 + 6^2 = c^2$$

$$16 + 36 = c^2$$

$$\sqrt{52} = \sqrt{c^2}$$

$$2\sqrt{13} = c$$

$$P = 2(6) + 2(2\sqrt{13})$$

$$P = 12 + 4\sqrt{13}$$

2. You are buying a frozen yogurt cone. The yogurt store has three different types of cones, six different flavors, and eight kinds of toppings. Which expression should be used to quickly find how many types of yogurt cones you can buy?

A.  $3 \times 6 \times 8$

B.  $3 + 6 + 8$

C.  $3 \times 6 + 8$

D. none of the above

$$3 \cdot 6 \cdot 8$$

A

Fill in the blanks in the sentence below:

"If you increase the lengths of the sides of a polygon by a factor of  $r$ , the perimeter will increase by a factor of  $2r$  and the area will increase by a factor of  $3r$ ."

A.  $r^2$ ;  $r^3$

B.  $r$ ;  $r^2$

C.  $2r$ ;  $3r$

D.  $r$ ;  $2r$

C

$$\frac{3}{9} \rightarrow \frac{3r}{9r}$$

$$\frac{4}{16} \rightarrow \frac{4r}{16r}$$

$$\frac{3}{9} \rightarrow \frac{3r}{9r}$$

$$\frac{4}{16} \rightarrow \frac{4r}{16r}$$

$$\frac{3}{9} \rightarrow \frac{3r}{9r}$$

$$\frac{4}{16} \rightarrow \frac{4r}{16r}$$

$$\frac{3}{9} \rightarrow \frac{3r}{9r}$$

$$\frac{4}{16} \rightarrow \frac{4r}{16r}$$

Name: \_\_\_\_\_ TP: \_\_\_\_\_

Tuesday Do Now  
Geometry

Brian bought a pair of jeans for  $\frac{2}{3}$  of the original price of \$48.00 and a belt for 40% of its original price of \$12.50. Ignoring sales tax, what is the total amount of these purchases?

- F. \$21.00
- G. \$27.00
- H. \$30.00
- J. \$37.00**
- K. \$60.50

$$\frac{2}{3}(48.00) + .40(12.50)$$

$$32 + 5$$

$$37.00$$

If  $\cos A = .2419$ , which measure is closest to the measure of angle A?

- A. 1 degree
- B. 76 degrees**
- C. 14 degrees
- D. 13 degrees

$$\cos A = .2419$$

$$\cos^{-1}(.2419) = A$$

$$76 = A$$

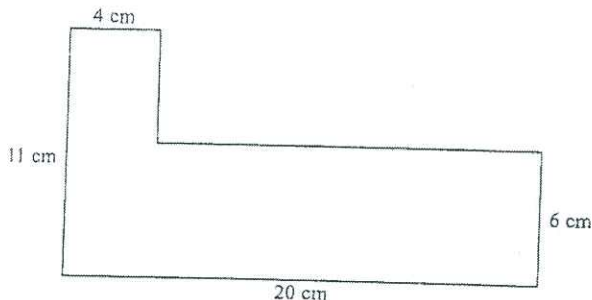
B

Matthew is going to buy a car, either a Dodge or a Chevy. He is trying to decide whether to buy a minivan or a hatchback. How many choices does he have?

- A. 2
- B. 4**
- C. 6
- D. 16

$$2 \cdot 2 = 4$$

2. For the polygon below, the lengths of 2 sides are not given. Each angle between adjacent sides measures  $90^\circ$ . What is the polygon's perimeter, in centimeters?



- F. 41
- G. 47
- H. 54
- J. 62**
- K. 123

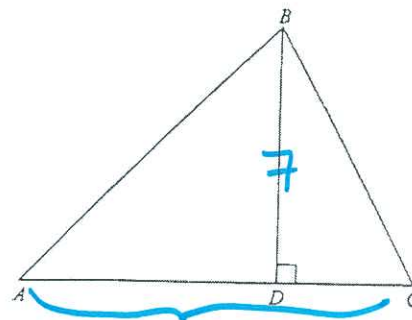
$$P = 2(11) + 2(20)$$

$$P = 22 + 40$$

$$P = 62$$

J

22. The area of  $\triangle ABC$  below is 42 square inches. If  $\overline{BD}$  is 7 inches long, how long is  $\overline{AC}$ , in inches?



- F. 9
- G. 10
- H. 12**
- J. 15
- K. 21

$$A = \frac{1}{2} \cdot b \cdot h$$

$$42 = \frac{1}{2} \cdot b \cdot 7$$

$$84 = 7b$$

$$12 = b$$

H

The two rectangles below are similar.

How long is side B?

- A. 9 in**
- B. 6.75 in
- C. 6 in
- D. 3.375 in

A

$$\frac{12}{16} = \frac{3}{4}$$

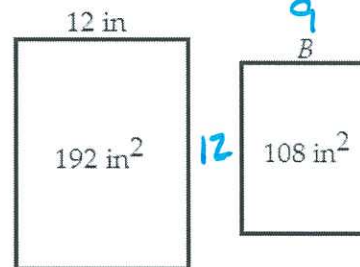
$$(3x)(4x) = 108$$

$$12x^2 = 108$$

$$x^2 = 9$$

$$x = 3$$

16





Name: \_\_\_\_\_ TP: \_\_\_\_\_

Wednesday Do Now  
Geometry

Today's newspaper reported that the price of a gallon of milk 10 years ago was 70% of today's price for a gallon of milk. Today's price for a gallon of milk is \$2.50. Which of the following is closest to the price of a gallon of milk 10 years ago?

- F. \$0.70
- G. \$0.75
- ☒ H. \$1.75
- J. \$1.80
- K. \$2.43

$.7 (2.50)$   
 $1.75$

H

Given that  $\sin A = \frac{2}{3}$ , which expression would you use to find the measure of angle A?

A.  $\sin \left( \frac{2}{3} \right)$

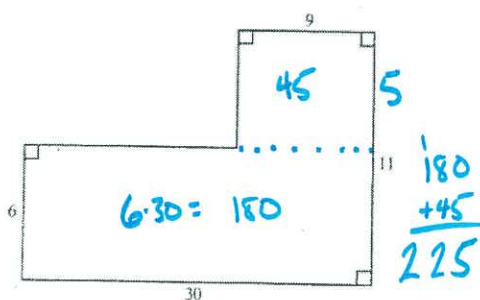
☒ B.  $\sin^{-1} \left( \frac{2}{3} \right)$

C.  $\sin \left( \frac{3}{2} \right)$

D.  $\frac{3}{2}$

B

What is the area, in square meters, of the figure below?



$11 - 6 = 5$

- F. 336
- G. 330
- ☒ H. 225
- J. 82
- K. 56

H

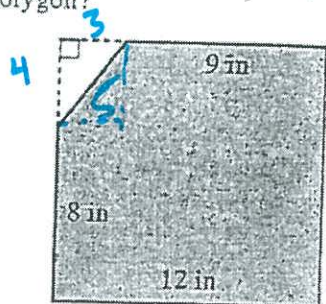
A sculptor creates a small plastic statue that weighs 17 lb. She plans to make another version of the same sculpture that is 5 times as large in each dimension and made of stone. If stone weighs 6 times as much as plastic, how much will the large statue weigh?

- ☒ A. 510 lb
- B. 1,530 lb
- C. 2,550 lb
- D. 12,750 lb

$6 (17.5)$   
 $510$

A

The polygon below was a square with 12-inch sides before a triangle was cut off. What is the perimeter, in inches, of this polygon?



$12 + 12 + 9 + 8 + 5$

- F. 41
- G. 43
- ☒ H. 46
- J. 48
- K. 53

H

There are three job openings for Level I computer technicians, and six applicants. How many different ways could these six applicants be chosen to fill the three job openings?

- A. 6
- B. 20
- ☒ C. 120
- D. 520

$\frac{6 \cdot 5 \cdot 4}{1} = 120$

C

Name: \_\_\_\_\_ TP: \_\_\_\_\_

Thursday Do Now  
Geometry

Mark is paid \$20 per hour for typing manuscripts. If he types a 15,000-word manuscript at the rate of 50 words per minute, how much will he be paid?

- A. \$ 15
- ☒ B. \$ 100
- C. \$ 150
- D. \$ 300
- E. \$6,000

$$\frac{15,000}{50} = 300 \text{ min}$$

$$\frac{300}{60} = 5 \text{ hours}$$

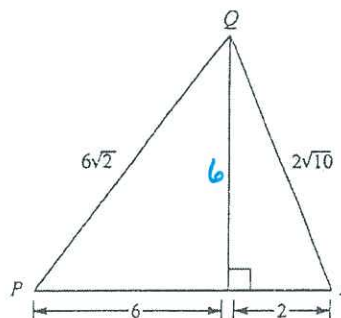
$$5 \cdot 20 = \$100$$

B

Which of the following correctly identifies the three basic trigonometric functions?

- ☒ A.  $\sin = \frac{\text{opp}}{\text{hyp}}$ ,  $\cos = \frac{\text{opp}}{\text{adj}}$ ,  $\tan = \frac{\text{adj}}{\text{hyp}}$
- ☒ B.  $\sin = \frac{\text{opp}}{\text{adj}}$ ,  $\cos = \frac{\text{adj}}{\text{hyp}}$ ,  $\tan = \frac{\text{opp}}{\text{hyp}}$
- C.  $\sin = \frac{\text{opp}}{\text{hyp}}$ ,  $\cos = \frac{\text{adj}}{\text{hyp}}$ ,  $\tan = \frac{\text{adj}}{\text{opp}}$
- ☒ D.  $\sin = \frac{\text{opp}}{\text{hyp}}$ ,  $\cos = \frac{\text{adj}}{\text{hyp}}$ ,  $\tan = \frac{\text{opp}}{\text{adj}}$

The dimensions of triangle  $PQR$ , shown below, are given in inches. What is the area, in square feet, of triangle  $PQR$ ?



$$A = \frac{1}{2} \cdot b \cdot h$$

$$A = \frac{1}{2}(8)(6)$$

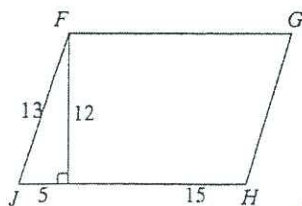
$$A = \frac{1}{2}(48)$$

$$A = 24$$

- E.  $17 + 2\sqrt{10}$
- ☒ G. 24
- H. 36
- J. 48
- K.  $72 + 2\sqrt{10}$

G

Parallelogram  $FGHJ$ , with dimensions in centimeters, is shown in the figure below. What is the area of the parallelogram, in square centimeters?



$$A = b \cdot h$$

$$A = 15 \cdot 12$$

$$A = 180$$

- A. 45
- B. 130
- ☒ C. 240
- D. 260
- E. 480

C

A license plate has three letters (A-Z) followed by three digits (0-9). How many different license plates can be produced?

- A. 12,654,720
- B. 12,812,904
- C. 15,600,000
- ☒ D. 17,576,000

$$26 \cdot 26 \cdot 26 \cdot 10 \cdot 10 \cdot 10$$

$$17,576,000$$

D

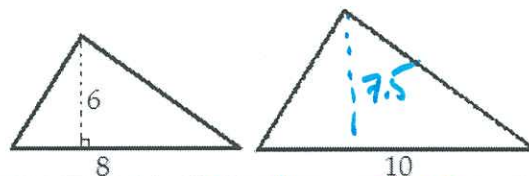
The two triangles below are similar. What is the area of the large one?

- A. 30
- B. 35
- ☒ C. 37.5

$$\frac{6}{8} = \frac{h}{10}$$

$$8h = 60$$

$$h = 7.5$$



$$A = \frac{1}{2} \cdot 10 \cdot 7.5$$



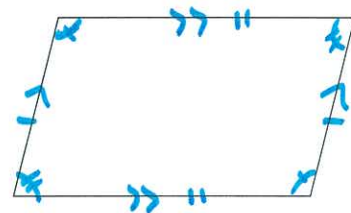
Name: \_\_\_\_\_ TP: \_\_\_\_\_

CW#81: Quadrilateral Review  
Geometry  
(FINISH FOR HW: DUE 4/8/14)

**Failure to show all work and write in complete sentences will result in LaSalle!**

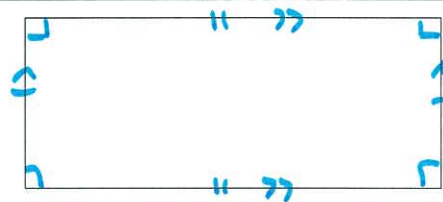
1) **Parallelogram**

1. The OPPOSITE sides are parallel PL AR, AP RL
2. The ADJ sides are  $\perp$  PERP.
3. The opposite angles are  $\cong$
4. The diagonals bisect each other
5. Any consecutive angles are supplementary



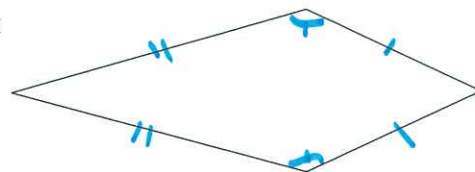
2) **Rectangle**

1. All properties of a parallelogram apply to rectangle
2. All angles are  $90^\circ$  angles
3. The diagonals are perpendicular



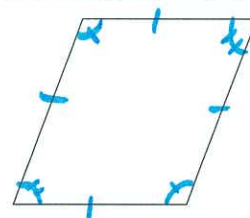
3) **Kite**

1. Two adjacent pairs of consecutive sides are congruent
2. The diagonals are perpendicular
3. One diagonal is the bisector of the other
4. One of the diagonals bisect a pair of opposite angles
5. One pair of opposite angles are congruent



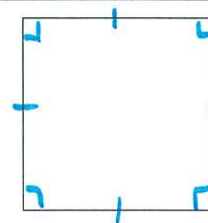
4) **Rhombus**

1. All the properties of a parallelogram applies to rhombus
2. All the properties apply to a rhombus
3. All the sides are congruent, (rhombus is equilateral)
4. The diagonals bisect the angles
5. The diagonals are perpendicular bisectors of each other
6. The diagonals divide the rhombus into 2 congruent right triangles



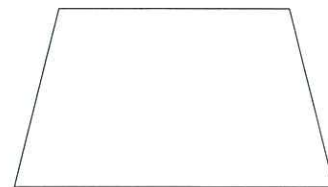
5) **Square**

1. All properties of a rectangle apply to square
2. All properties of rhombus apply by to square
3. The diagonals form four isosceles right triangle

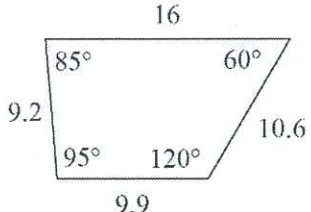
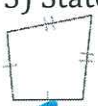
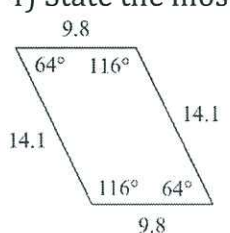


6) **Isosceles Trapezoid**

1. The legs are congruent by definition
2. The bases are parallel
3. The lower base angles are congruent
4. The upper base angles are congruent
5. The diagonals are congruent
6. Any lower base angle is supplementary to any upper base angle



**Bringin' Zesty Back... YEAH!**

<p>1) Which statement is true?</p> <p><del>A.</del> All parallelograms are squares.</p> <p><u>B.</u> All squares are parallelograms ✓</p> <p><del>C.</del> All quadrilaterals are parallelograms</p> <p><del>D.</del> All kites are trapezoids</p> <p><b>B</b></p>	<p>2) State the most specific name the figure.</p>  <p><b>QUADRILATERAL</b></p>
<p>3) State the most specific name the figure.</p>  <p><u>A.</u> kite                      B) trapezoid</p> <p>C) quadrilateral        D) isosceles trapezoid</p> <p><b>A</b></p>	<p>4) State the most specific name the figure.</p>  <p><b>parallelogram</b></p>

**Directions:** Put in "X" for each property that applies to each type of quadrilateral.

Quadrilaterals and Their Diagonals				
	Diagonals Bisect Each Other?	Diagonals Congruent?	Diagonals Perpendicular?	Diagonals Bisect Opposite Angles?
Quadrilateral				
Rhombus	X		X	X
Parallelogram	X		X	X
Square	X	X	X	X
Rectangle	X	X		X
Trapezoid				
Kite	1 of them		X	1 of them
Isosceles Trapezoid	X	X		

**Directions:** Match the description with **all** the terms that fit it.

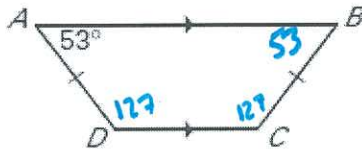
- a. Trapezoid                      b. Isosceles **trapezoid**                      c. Parallelogram                      d. Rhombus  
 e. Kite                              f. Rectangle                              g. Square                              h. All quadrilaterals

- d, c, g, f, b Diagonals bisect each other.
- g, f, b Diagonals are congruent.
- b, c, d, f, g Opposite sides are congruent.
- b, c, d, f, g Both diagonals bisect angles.
- d, c, g Diagonals are perpendicular.
- h Measure of interior angles sum to  $360^\circ$
- b, c, d, f, g Opposite angles are congruent.
- g, d Diagonals are perpendicular bisector of each other.

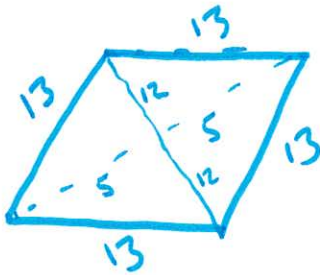
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5) Find the measurements of angle B, C, and D.



7) If one diagonal of a rhombus is 10 cm and the other 24 cm, how long is each side of the rhombus?

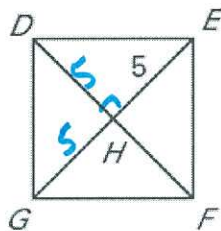


13

8) Find the length of DE.

- A. 5
- B.  $5\sqrt{2}$
- C. 6
- D.  $6\sqrt{2}$

13



Justify your answer in a sentence:

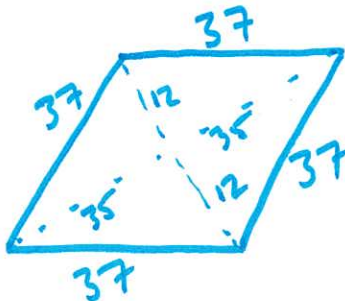
$$5^2 + 5^2 = c^2$$

$$50 = c^2$$

$$\sqrt{50} = c$$

$$5\sqrt{2} = c$$

9) If one diagonal of a rhombus is 24 cm and the other is 70 cm, how long is each side of the rhombus?



$$a^2 + b^2 = c^2$$

$$12^2 + 35^2 = c^2$$

$$1369 = c^2$$

$$37 = c$$

6) Which of the following quadrilaterals have diagonals that are perpendicular?

- I. Parallelogram ☒
- II. Rhombus ☒
- III. Square ☒
- IV. Kite ☒

- A. I
- B. II and III only
- C. II, III, and IV
- D. II and IV only
- E. All of the above

To prove your answer above, draw four different diagrams with their diagonals.

Parallelogram



Rhombus



Square



Kite



10) State whether each statement is always true, sometimes true, or never true.

- a. A rhombus is a square. **SOMETIMES**
- b. A square is a rectangle. **ALWAYS**
- c. Diagonals of a rectangle bisect each other. **ALWAYS**
- d. A trapezoid is a parallelogram. **NEVER**

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## Practice Quiz Questions:

1. Which of the following have all sides congruent?

- I. Square ✓
- II. Rectangle
- III. Rhombus ✓

- A. I
- B. I and II only
- ☒ C. I and III only
- D. None of the above
- E. All of the above

C

2. Which of the following parallelograms have congruent diagonals?

- I. Square ✓
- II. Rectangle ✓
- III. Rhombus

- A. I only
- ☒ B. I and II only
- C. I and III only
- D. None of the above
- E. All of the above

3. Tell if the statement is always true, sometimes true, or never true.

A trapezoid is a parallelogram. **NEVER**

The bases of a trapezoid are parallel. **TRUE (ALWAYS)**

The base angles of an isosceles trapezoid are congruent. **ALWAYS**

The legs of a trapezoid are congruent. **SOMETIMES**

4. Name each quadrilateral – parallelogram, rectangle, rhombus and square – for which the statement is true.

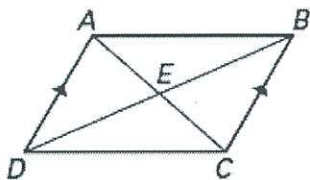
- a. The diagonals bisect each other. **Parallelogram, Rectangle, square**
- b. Opposite sides are congruent. **Parallelogram, Rectangle, square**
- c. It is equiangular and equilateral. **square**
- d. The diagonals bisect opposite angles. **square, rhombus**
- e. The diagonals are perpendicular. **rhombus, square**
- f. It is equiangular. **rectangle, square**

5.

**Multiple Choice** Which additional piece of information do you need to prove  $ABCD$  is a parallelogram?

- ☐ A.  $\overline{AB} \cong \overline{DC}$
- ☐ B.  $\overline{AD} \cong \overline{BC}$
- ☒ C.  $\overline{AB} \parallel \overline{DC}$
- ☐ D. A or B

C



6. Which statement is true?

- A. All parallelograms are rhombuses. **X**
- B. All quadrilaterals are parallelograms. **X**
- C. All quadrilaterals are squares. **X**
- ☒ D. All rectangles are parallelograms ✓

D

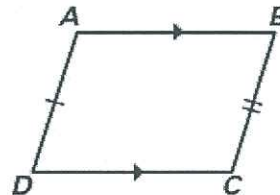
7. Which of the following statements is NOT true about parallelograms?

- ☒ a. consecutive angles are congruent **FALSE**
- b. opposite sides are congruent **TRUE**
- c. opposite angles are congruent **TRUE**
- ☒ d. the diagonals bisect each other **FALSE**

8.

**Multiple Choice** What kind of quadrilateral would meet the conditions of the diagram?  $ABCD$  is not drawn to scale.

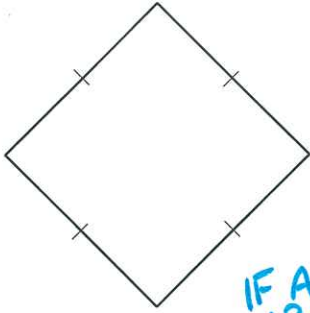
- ☐ A. kite
- ☐ B. rhombus
- ☐ C. trapezoid
- ☐ D. square
- ☒ E. parallelogram



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9. Judging by appearance, classify the figure in as many ways as possible.

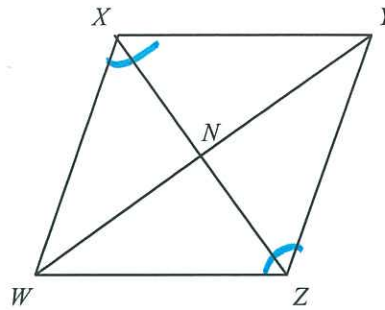


IF ALL SIDES ARE CONGRUENT OPPOSITE SIDES MUST BE PARALLEL

- ☒ A rectangle, square, quadrilateral, parallelogram, rhombus  
☒ B rectangle, square, parallelogram  
☒ C rhombus, trapezoid, quadrilateral, square  
☐ D square, rectangle, quadrilateral

A

10.  $WXYZ$  is a parallelogram. Name an angle congruent to  $\angle WZY$ .



$y x w$   
 $w x - 1$

- A  $\angle ZXY$  B  $\angle XWZ$  C  $\angle ZXW$  ☒ D  $\angle WXY$

D

11. Which of the following quadrilaterals have diagonals that are perpendicular?

- V. Parallelogram  
☒ VI. Rhombus ✓  
☒ VII. Square ✓  
☒ VIII. Kite ✓

- F. I  
 G. II and III only  
 H. II, III, and IV  
 I. II and IV only  
 J. All of the above

VI, VII, VIII

12. Which of the following quadrilateral is a parallelogram?

- I. Rhombus ✓  
 II. Square ✓  
 III. Rectangle ✓  
 IV. Trapezoid

- A. I  
 B. II and III  
 C. I and III  
☒ D. I, II, and III  
 E. All of above

D

Create a quadrilateral flow chart:

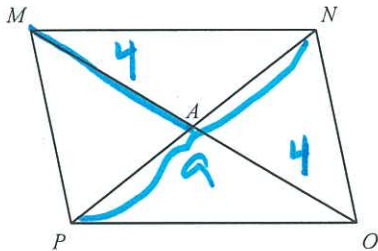
Bringin' Zesty Back... YEAH!

Name: \_\_\_\_\_ TP: \_\_\_\_\_

<b>CRS</b>	PPF701 Classify quadrilaterals
<b>Objective</b>	12.8 Use properties of quadrilaterals to correctly identify them, find missing sides and angles, and determine the perimeter and area of the quadrilateral.

### WHITEBOARD TRIVIA

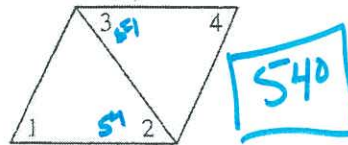
- 1) Find  $AM$  in the parallelogram if  $PN=9$  and  $AO=4$ . The diagram is not to scale.



$AM = 4$

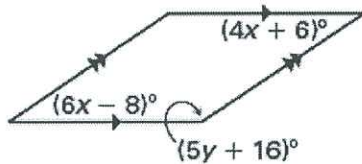
2)

In the parallelogram below, a diagonal is shown and  $\angle 2$  measures  $54^\circ$ . What is the measure, in degrees, of  $\angle 3$ ?



3)

What are the values of the variables in quadrilateral  $MNOP$ ?



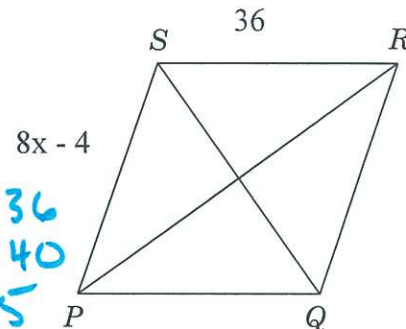
$4x + 6 = 6x - 8$   
 $14 = 2x$   
 $7 = x$

- ☒ A  $x = 4, y = 19$     ☒ B  $x = 6, y = 19$   
☒ C  $x = 5, y = 27$     ☒ D  $x = 3, y = 32$   
☒ E  $x = 7, y = 26$

E

4)

If  $PQRS$  is a rhombus, which statement must be true?



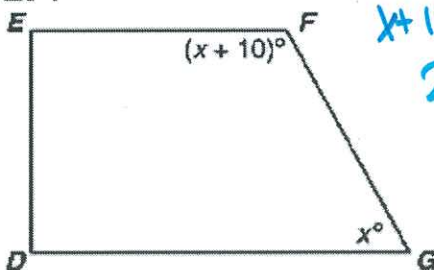
$8x - 4 = 36$   
 $8x = 40$   
 $x = 5$

- a)  $x = 8$     b)  $x = -4$     ☒ c)  $x = 5$     d)  $x = 36$

Explain why!

All sides are equal.

- 5) In Quadrilateral  $DEFG$  below,  $\overline{DG}$  is parallel to  $\overline{EF}$ .



$x + 10 + x = 180$   
 $2x + 10 = 180$   
 $2x = 170$   
 $x = 85$

- a) What is the name of this quadrilateral?

TRAPEZOID

- b) What is the measure of  $\angle F$ ?

$95^\circ$

6)

The area  $A$  of a trapezoid can be found using the formula

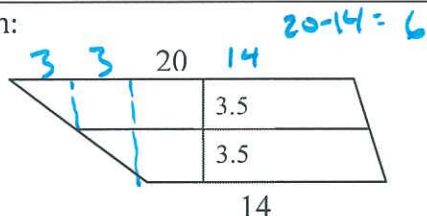
$A = \frac{1}{2}(b_1 + b_2)h$ , where  $b_1$  and  $b_2$  are the lengths of the bases and  $h$  is the height. The area of a trapezoid is 54 square inches. If the length of one base is 11 inches and the height is 6 inches, what is the length of the other base?

$A = \frac{1}{2}(b_1 + b_2)h$   
 $54 = \frac{1}{2}(11 + b_2)6$   
 $54 = 3(11 + b_2)$   
 $18 = 11 + b_2$   
 $7 = b_2$

Z-E-S-T-Y. That's the way we spell ZESTY. ZESTY!



7) Given:



A. Determine the midsegment. 7

B. Determine the area of the *top* trapezoid. = 54.25

C. Determine the area of the *bottom* trapezoid = 64.75

A. Determine the area of the entire trapezoid.

$$A = \frac{1}{2}(20+14)7 = 119$$

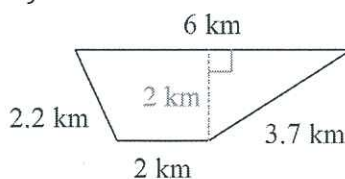
9) The area of a trapezoid is  $55 \text{ cm}^2$ . If the length of the longer base is 12 inches and the height is 5 inches, what is the length of the shorter base?

$$55 = \frac{1}{2}(12+b) \cdot 5$$

$$22 = 12+b$$

$$10 = b$$

8) Find the area of the trapezoid below.

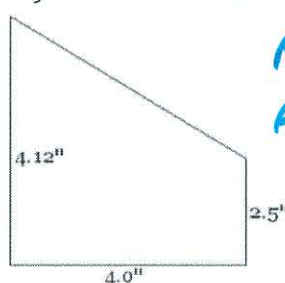


$$A = \frac{1}{2}(6+2) \cdot 2$$

$$A = 4 \cdot 2$$

$$A = 8$$

10) Find the area of the trapezoid below.

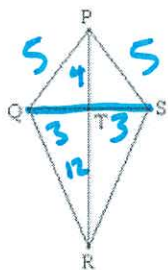


$$A = \frac{1}{2}(4.12+2.5)4$$

$$A = 3.31 \cdot 4$$

$$A = 13.24$$

11) In the kite below,  $PQ = 5 \text{ cm}$ ,  $PS = 5 \text{ cm}$ ,  $QS = 6 \text{ cm}$ , and  $TR = 12 \text{ cm}$ . Round all steps to nearest tenth



$$3^2 + 12^2 = c^2$$

$$9 + 144 = c^2$$

$$\sqrt{153} = c$$

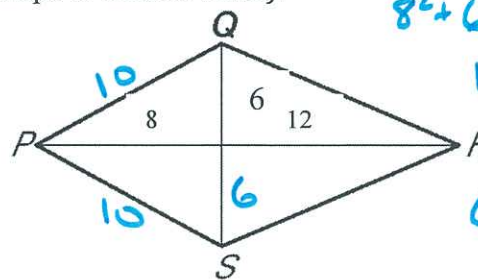
a) Find the perimeter

b) What is the area of the kite?

$$A = \frac{1}{2} \cdot 16 \cdot 6$$

$$A = 48$$

12) Given kite PQRS, find the following (round all steps to nearest tenth):



$$8^2 + 6^2 = c^2$$

$$10 = c$$

$$6^2 + 12^2 = c^2$$

$$\sqrt{180} = c$$

$$6\sqrt{5} = c$$

a) The perimeter.

$$20 + 12\sqrt{5}$$

b) The area.

$$A = \frac{1}{2} \cdot 20 \cdot 12 = 120$$

13) If one diagonal of a rhombus is 30 cm and the other is 16 cm, how long is each side of the rhombus?

a) Find the perimeter of the rhombus.

b) Find the area of the rhombus.

$$A = \frac{1}{2} \cdot 30 \cdot 16 = 240$$

14) If one diagonal of a square is 16 inches, find the length of one side of square? Round to the nearest tenth.

a) Find the perimeter of the square.

b) Find the area of the square.



$$8^2 + 15^2 = c^2$$

$$\sqrt{289} = c$$

$$17 = c$$



$$8^2 + 8^2 = c^2$$

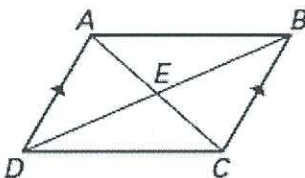
$$8\sqrt{2} = c$$

Z-E-S-T-Y. That's the way we spell ZESTY. ZESTY!

15)

**Multiple Choice** Which additional piece of information do you need to prove  $ABCD$  is a parallelogram?

- (A)  $\overline{AB} \cong \overline{DC}$   
 (B)  $\overline{AD} \cong \overline{BC}$   
 (C)  $\overline{AB} \parallel \overline{DC}$   
 (D) A or B

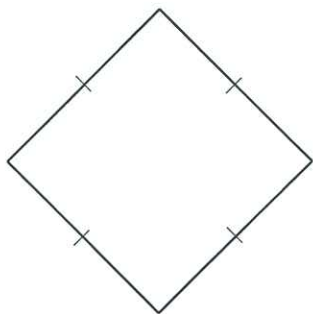


16) Which statement is true?

- (A) All parallelograms are rhombuses.  
 (B) All quadrilaterals are parallelograms  
 (C) All quadrilaterals are squares  
 (D) All rectangles are parallelograms

D

17) Judging by appearance, classify the figure in as many ways as possible.

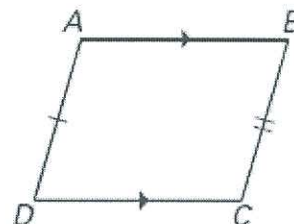


- (A) rectangle, square, quadrilateral, parallelogram, rhombus  
 (B) rectangle, square, parallelogram  
 (C) rhombus, trapezoid, quadrilateral, square  
 (D) square, rectangle, quadrilateral

18)

**Multiple Choice** What kind of quadrilateral would meet the conditions of the diagram?  $ABCD$  is not drawn to scale.

- (A) kite  
 (B) rhombus  
 (C) trapezoid  
 (D) square

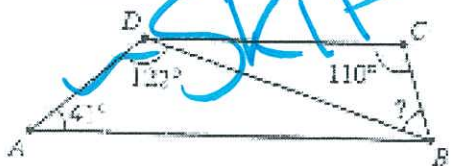


Explain why!

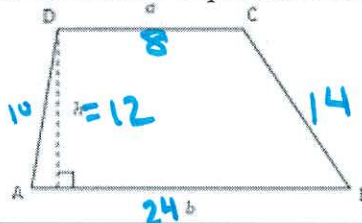
Bases are parallel

19)

In the figure below,  $\overline{AB} \parallel \overline{DC}$ ,  $\angle A$  measures  $41^\circ$ ,  $\angle C$  measures  $110^\circ$ , and  $\angle ADB$  measures  $122^\circ$ . What is the measure of  $\angle CBD$ ?



20) In trapezoid  $DCBA$  below, the  $h = 12$  cm,  $DC = 8$  cm,  $DA = 10$  cm,  $CB = 14$  cm, and  $AB = 24$  cm. What is the area of trapezoid  $DCBA$ ?



$$A = \frac{1}{2}(8+24) \cdot 12$$

$$A = 16 \cdot 12$$

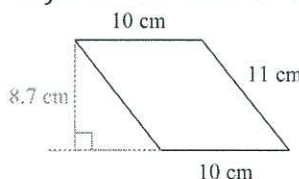
$$A = 192$$

21) Arkansas has a shape that is similar to a trapezoid with bases of about 182 miles and 267 miles and a height of about 254 miles. Estimate the area of the state.

$$A = \frac{1}{2}(182+267) 254$$

$$A = 57,023 \text{ mi}^2$$

22) Find the area of the parallelogram:



$$10 \cdot 8.7$$

$$\boxed{87}$$

Z-E-S-T-Y. That's the way we spell ZESTY. ZESTY!



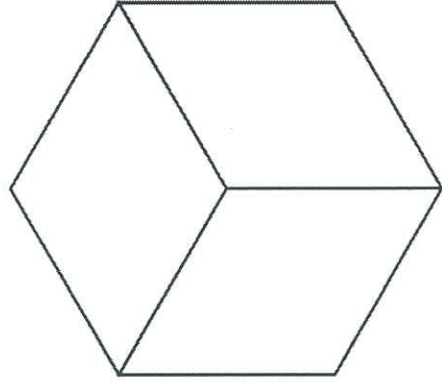
CLASS COPY. DO NOT WRITE ON!

Exploration #1 – Surface Area!

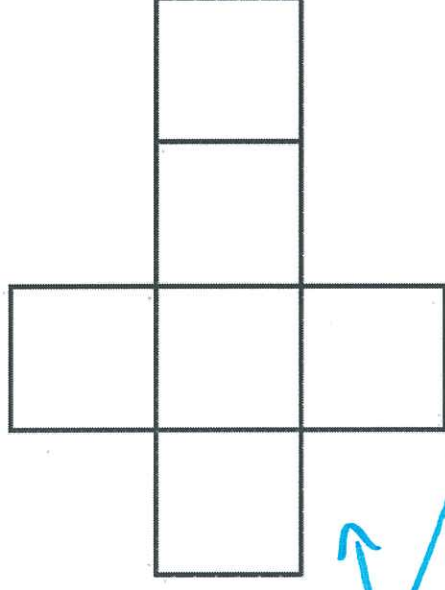
EXPLORATION:

Draw the following shapes in their 2-Dimensional form

EXAMPLE:



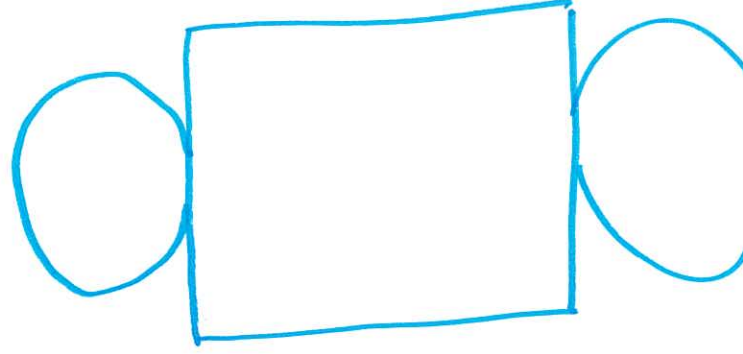
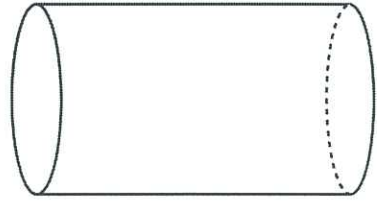
CUBE (3-D)



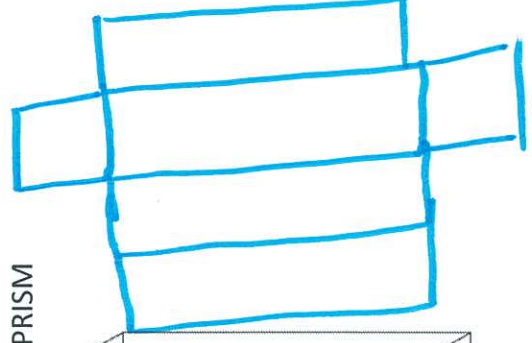
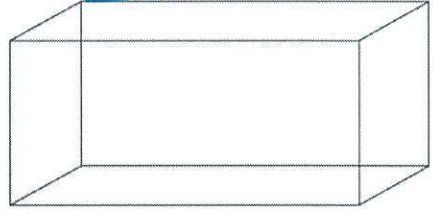
NETS

FLATTENED CUBE (2-D)

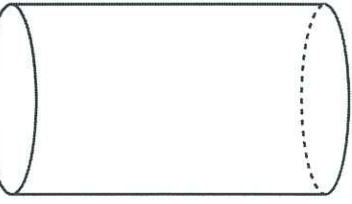
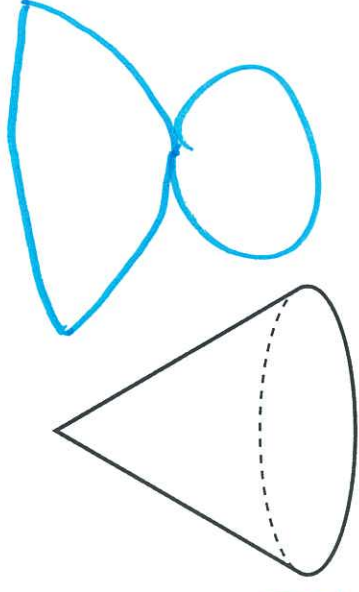
#1) CYLINDER



#2) RECTANGULAR PRISM



#3) CONE (IF YOU HAVE EXTRA TIME)

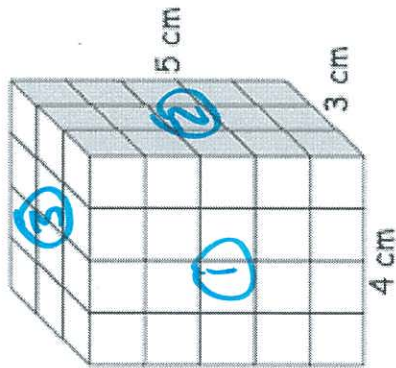


1) What is surface area? Is surface area the same as volume? In your own words, how do you calculate the surface area of an object?

Surface area is the sum of the areas of the flat surfaces (faces). Surface area is NOT THE SAME AS VOLUME. THINK SURFACE AREA IS HOW MUCH PAPER IT WILL TAKE TO WRAP SOMETHING AND VOLUME IS HOW MUCH PAPER IT WILL TAKE TO FILL

### Rectangular Prisms: TAKE TO WRAP SOMETHING AND VOLUME IS HOW MUCH PAPER IT WILL TAKE TO FILL

5) Describe how you would find the surface area of the following. Calculate the surface area. Is there a formula?



FACE 1:  $4 \times 5 = 20$   
 $20 \times 2 = 40$

FACE 2:  $3 \times 5 = 15$   
 $15 \times 2 = 30$

FACE 3:  $3 \times 4 = 12$   
 $12 \times 2 = 24$

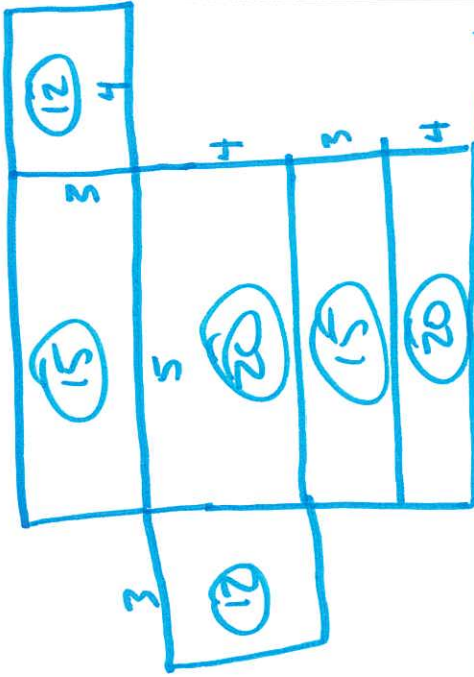
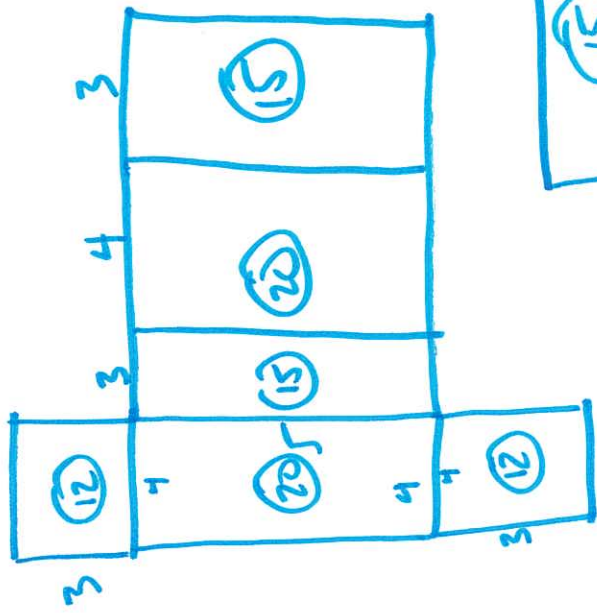
$40 + 30 + 24 = 94 \text{ cm}^2$

FIND THE AREA OF EACH FACE, THEN ADD ALL AREAS TOGETHER -- THERE WILL BE 3 PAIRS OF CONGRUENT FACES.

Formula? NONE...

WAYSE  $2(\text{FACE 1}) + 2(\text{FACE 2}) + 2(\text{FACE 3})$

6) Create two different rough sketches of nets for a rectangular prism to the left. Find the area of each face, and the surface area of each net. Is this the same as the calculations that you made to the left?

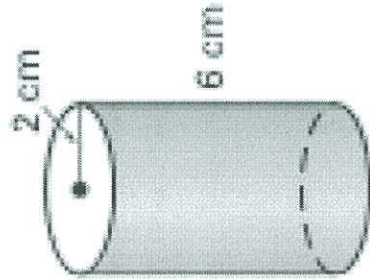


4 3 4 3 4 3



# Right Cylinder

7) Describe how you would find the surface area of the following. Is there a formula?



FIND THE AREA OF THE CIRCLE:  $A = \pi r^2$ , TIMES

2 b/c we have 2 circles.  $\pi \cdot 2^2 = 4\pi \cdot 2 = 8\pi$ .

THE HEIGHT OF THE CYLINDER IS 6 cm. THE

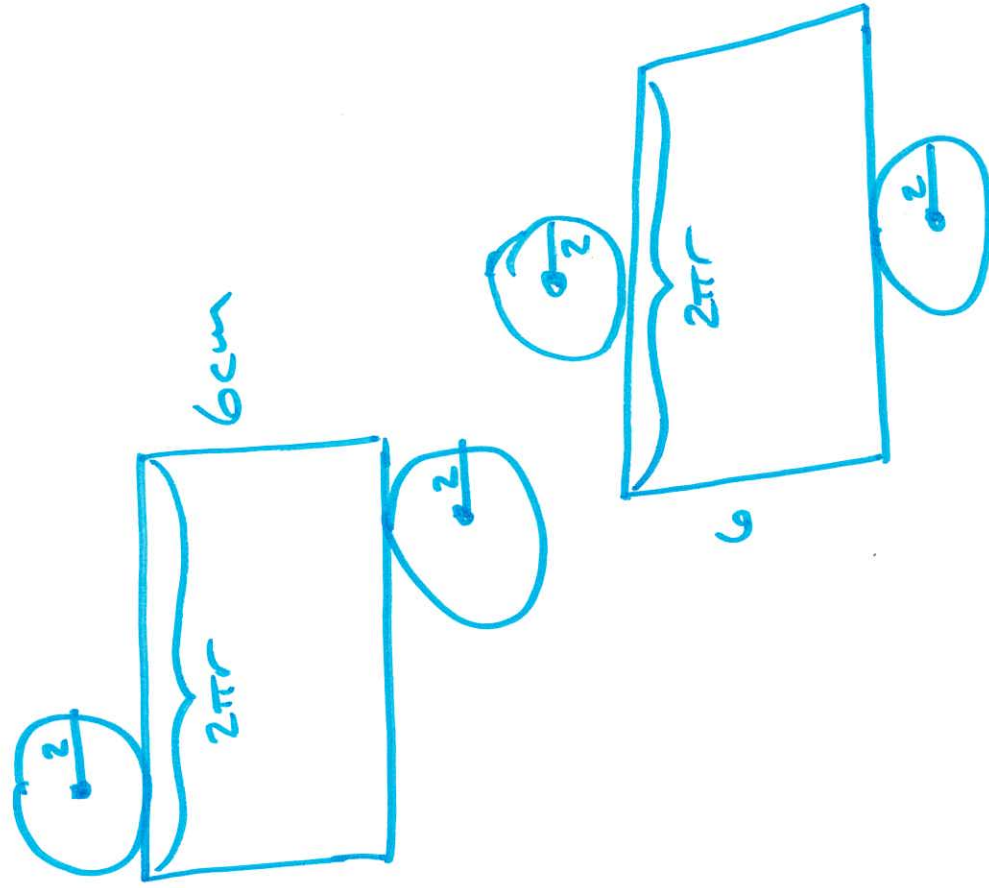
LENGTH OF THE "RECTANGLE" IS THE CIRCUMFERENCE

OF THE CIRCLE:  $h \times 2\pi r = 6 \cdot 2\pi \cdot 2 = 6 \cdot 4\pi = 24\pi$

Add:

Formula?  $SA = 2\pi r^2 + h \cdot 2\pi r$   $32\pi \text{ cm}^2$

8) Create **two different** rough sketches of nets for a right cylinder to the left. Find the area of each face, and the surface area of each net. Is this the same as the calculations that you made to the left?

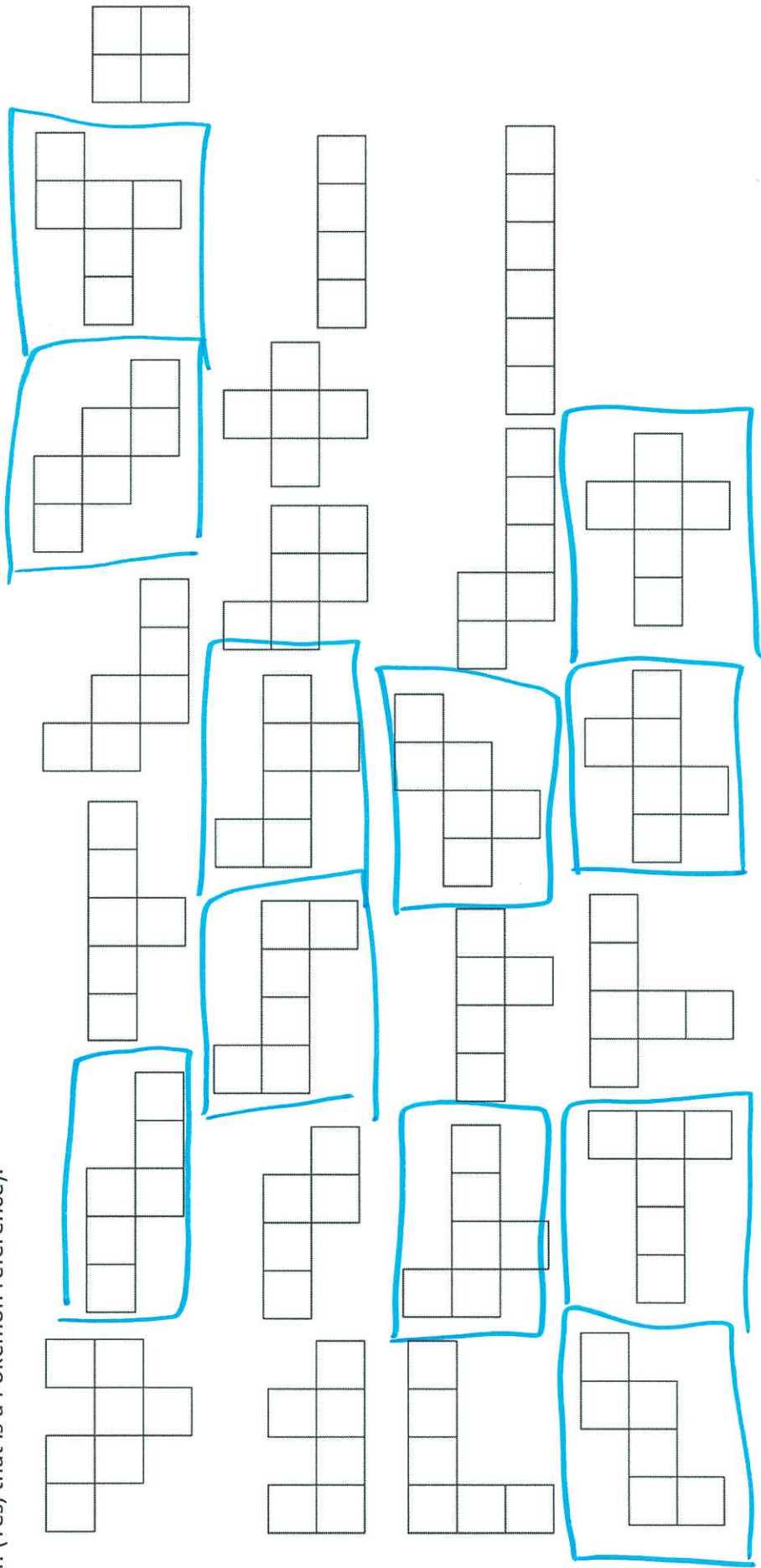


## Exploration #2: Nets!

## 1) What is a net?

A NET IS A TWO-DIMENSIONAL PATTERN OF A 3-DIMENSIONAL FIGURE THAT CAN BE FOLDED TO FORM THE 3-D FIGURE.

- 2) There are eleven different ways to make the net of a cube, apart from rotations (turn it round) and reflections (turn it over). Try to catch them all! (Yes, that is a Pokemon reference).



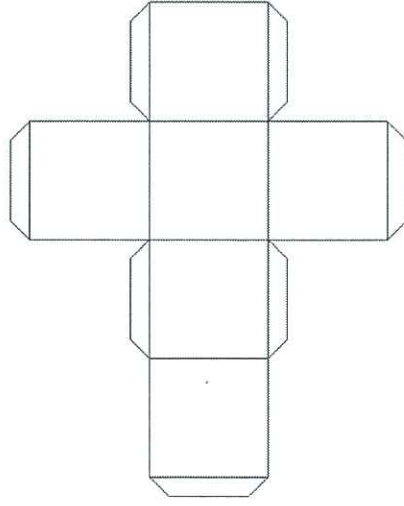


3) Describe the characteristics of the net of a cube. Did you notice any patterns? Did you eliminate any nets? Why?

- 1) MUST HAVE 6 FACES 2) 4 IN A ROW, AND ONE ON EITHER SIDE
- 3) "T" SHAPE WITH EXTRA SQUARE ON TOP OR SIDE
- 4) STAGGERED 3-ON-3
- 5) MAKES 2 "V" SHAPES

4) Next, you will choose one net design above and create a cube! Here is one of them as an example:

Make your own!



Steps:

- 1) Scale it up to the size you want (just make sure it fits on one piece of graph paper!)
- 2) Put a tab on every other edge for gluing it together.
- 3) Trace your net onto construction paper (Ordinary graph paper will be fragile!)
- 4) Cut it out carefully. Write your name on the outside of the net so that it will be visible after you assemble it.
- 5) Use a pen or pencil to go over all lines in the design, including the tabs. Now fold the paper to make right angles, and you will see the cube start to appear.
- 6) Use small dabs of glue or a glue stick.
- 7) What is the area of one face of your cube?
- 8) What is the surface area of your cube?
- 9) What is the volume of your cube?

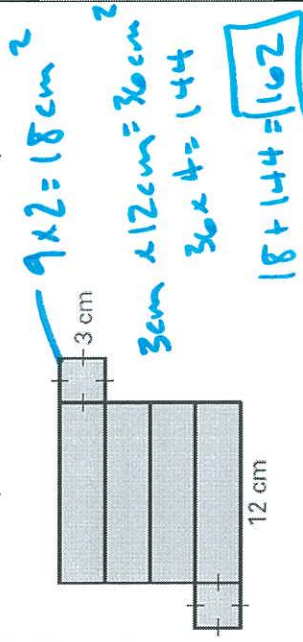


10) For fun: How many cubes in a Rubiks cube?

$$9 \cdot 3 = 27$$

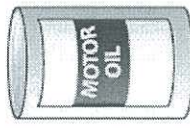
# Practice Problems:

- 1) Find the surface area of the solid formed by the net. Round your answer to two decimal places.



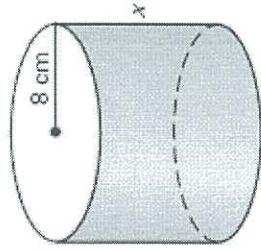
- 4) Find the surface area of the right cylinder using the given radius  $r$  and height  $h$ . Round your answer to two decimal places.

$$r = 5 \text{ cm}; h = 15 \text{ cm}$$



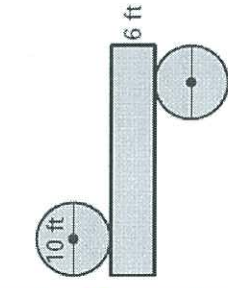
$$\begin{aligned} A_0 &= 25\pi \times 2 = 50\pi \\ C &= 10\pi \\ A_D &= 10\pi \times 15 = 150\pi \\ 150\pi + 50\pi &= 200\pi \end{aligned}$$

- 7) Solve for  $x$  given the surface area  $S$  of the right prism or right cylinder. Round your answer to two decimal places.  $S = 1000 \text{ cm}^2$



$$\begin{aligned} A_0 &= 64\pi \times 2 = 128\pi \\ \frac{1000}{16\pi} &= \frac{128\pi}{16\pi} \\ \frac{597.88}{16\pi} &= 11.84 \text{ cm} \end{aligned}$$

- 2) Find the surface area of the solid formed by the net. Round your answer to two decimal places.



$$\begin{aligned} C &= \pi d \\ C &= 10\pi \\ 10\pi \times 6 \\ A_D &= 60\pi \\ 60\pi + 50\pi &= 110\pi \text{ ft}^2 \end{aligned}$$

- 5) Find the surface area of the right cylinder using the given radius  $r$  and height  $h$ . Round your answer to two decimal places.

$$r = 12 \text{ in.}; h = 18 \text{ in.}$$

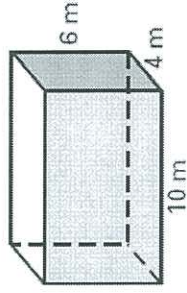


$$\begin{aligned} A_0 &= 144\pi \times 2 = 288\pi \\ C &= 24\pi \\ A_D &= 24\pi \times 18 = 432\pi \\ 432\pi + 288\pi &= 720\pi \end{aligned}$$

- 8) CHALLENGE: Find the radius of a right cylinder with a surface area of  $48\pi$  square feet. The height of the cylinder is 5 feet.

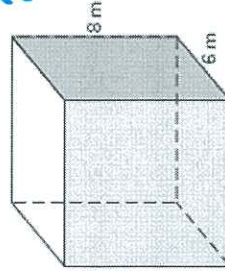
$$\begin{aligned} 48\pi &= 2\pi r^2 + 5 \cdot 2\pi r \\ 48\pi &= 2\pi (r^2 + 5r) \\ 24 &= r^2 + 5r \\ r^2 + 5r - 24 &= 0 \\ (r+8)(r-3) &= 0 \\ r &= -8, 3 \\ r &= 3 \end{aligned}$$

- 3) Find the surface area of the right prism. Round your answer to two decimal places.



$$\begin{aligned} 6 \times 4 &= 24 \times 2 = 48 \\ 4 \times 10 &= 40 \times 2 = 80 \\ 10 \times 6 &= 60 \times 2 = 120 \\ 248 \text{ m}^2 \end{aligned}$$

- 6) Solve for  $x$  given the surface area  $S$  of the right prism or right cylinder. Round your answer to two decimal places.  $S = 320 \text{ m}^2$



$$\begin{aligned} 2(6 \cdot 8) + 2(6x) + 2(8x) &= 320 \\ 96 + 12x + 16x &= 320 \\ 28x &= 224 \\ x &= 8 \end{aligned}$$

- 9) As a birthday present for a friend, you buy a cylindrical box of candy. The diameter of the box is 6 inches and the height is 8 inches. What is the minimum amount of wrapping paper needed to wrap the gift? Round your answer to two decimal places.



$$\begin{aligned} C &= 6\pi \\ A_D &= 6\pi \times 8 = 48\pi \\ A_0 &= 9\pi \times 2 = 18\pi \\ 66\pi &\approx 207.3 \text{ in}^2 \end{aligned}$$


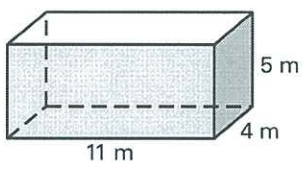
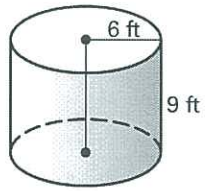


## TEACHER NOTES.

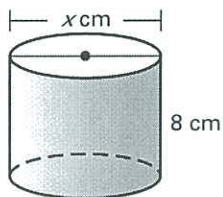
CRS	Geometry Content
Objective	13.2 – Find volume of rectangular prisms and right cylinders

**Definition of volume:** the number of cubic units contained in the interior of a solid

STUDENTS DO NOT HAVE THIS. (ACTUALLY THEY MIGHT)

Volume of a Cube	Volume of a Rectangular Prism	Volume of a Right Cylinder
$V = s^3$ $V$ = volume $s$ = length of side	$V = Bh$ $V$ = volume $B$ = area of base $h$ = height	$V = Bh = \pi r^2 h$ $V$ = volume $B$ = area of base $h$ = height $r$ = radius of a base
<b>Example 1:</b> Find the volume of a cube if the surface area of one face is <u>49</u> in <sup>2</sup> .  $V = 7^3$ $V = 343$	<b>Example 2:</b> Find the volume of the solid. Round your answer to two decimal places if necessary.  $V = 11 \cdot 4 \cdot 5$ $V = 220$	<b>Example 3:</b> Find the volume of the solid. Round your answer to two decimal places if necessary.  $V = \pi(6)^2 \cdot 9$ $V = 36\pi \cdot 9$ $V = 324\pi \approx 1017.36$

**Example 4:** The volume of a right cylinder is  $200\pi$  cm<sup>3</sup>. Find the value of  $x$ .



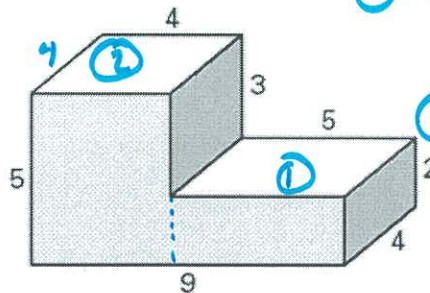
$$\frac{200\pi}{8\pi} = \frac{\pi r^2 \cdot 8}{8\pi}$$

$$25 = r^2$$

$$5 = r$$

$$\boxed{d = 10}$$

**Example 5:** Finding area of funky shapes! Find the volume of the solid by determining how many unit cubes are contained in the solid.



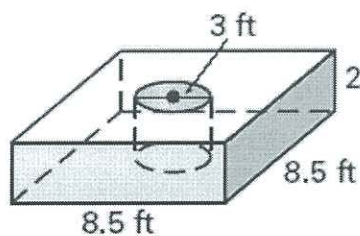
$$\textcircled{1} 4 \cdot 2 \cdot 5 = 40$$

$$\textcircled{2} 4 \cdot 4 \cdot 5 = 80$$

$$40 + 80$$

$$\boxed{120}$$

**Example 6:** Find the volume of the solid. Round your answer to two decimal places, if necessary.



$$V_D = (8.5)(8.5)(2.4) = 173.4$$

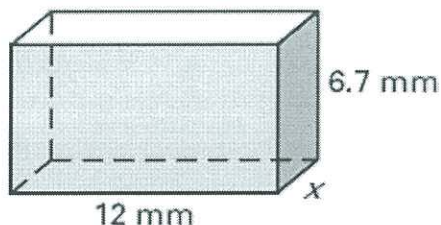
$$V_0 = \pi(1.5)^2 2.4 = 5.4\pi \approx 16.96$$

$$173.4 - 16.96 = \boxed{156.44}$$

Exit Slip (w/Ans)

1) Find the length  $x$  using the given volume  $V$ .

$$V = 281.4 \text{ mm}^3$$

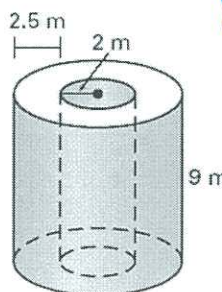


$$281.4 = 12 \cdot 6.7 \cdot x$$

$$281.4 = 80.4x$$

$$x = 3.5$$

2) Find the volume of the right cylinder. Round your answer to two decimal places, if necessary.



$$V_{B_0} = \pi(4.5)^2 \cdot 9$$

$$182.25\pi - 36\pi$$

$$V_{S_0} = \pi(2)^2 \cdot 9$$

$$36\pi$$

$$146.25\pi \approx$$

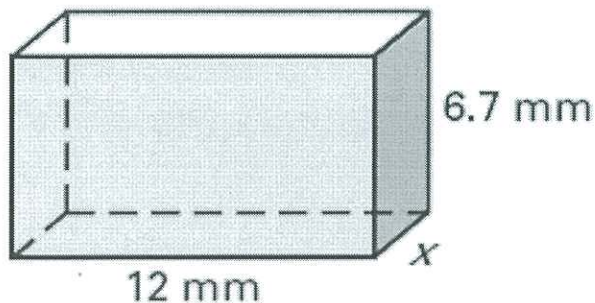
$$\boxed{459.23}$$

Exit Slip

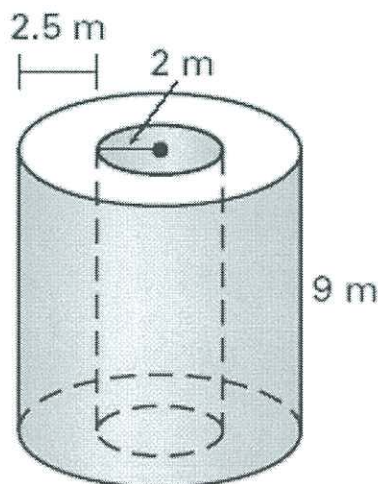
Name: \_\_\_\_\_

1) Find the length  $x$  using the given volume  $V$ .

$$V = 281.4 \text{ mm}^3$$



2) Find the volume of the right cylinder. Round your answer to two decimal places, if necessary.

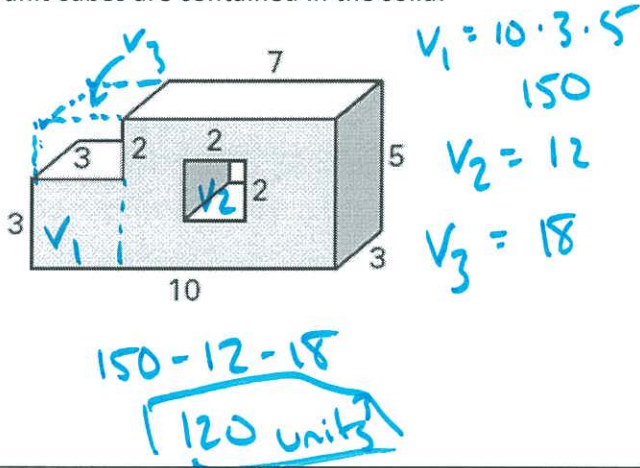




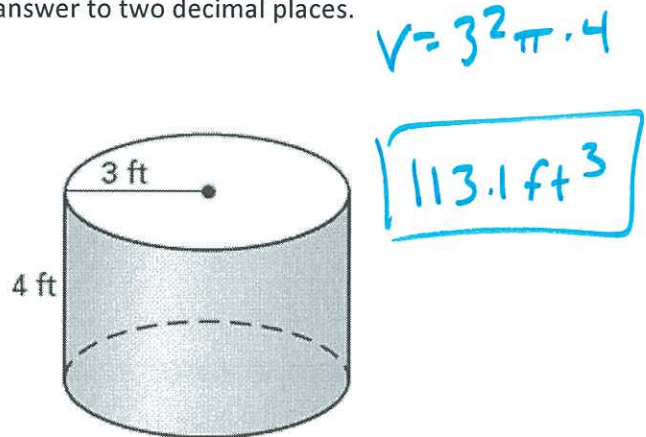
CLASS COPY. DO NOT WRITE ON!

CRS	Geometry Content
Objective	13.2 – Find volume of rectangular prisms and right cylinders

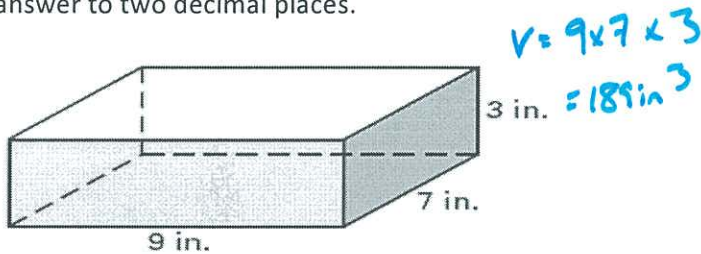
- 1) Find the volume of the solid by determining how many unit cubes are contained in the solid.



- 2) Find the volume of the right cylinder. Round your answer to two decimal places.



- 3) Find the volume of the rectangular prism. Round your answer to two decimal places.



Find the surface area:

$$2(9 \cdot 7) + 2(7 \cdot 3) + 2(9 \cdot 3) = 222 \text{ in}^2$$

- 4) How many 2 inch cubes can fit completely in a box that is 10 inches long, 8 inches wide, and 4 inches tall?

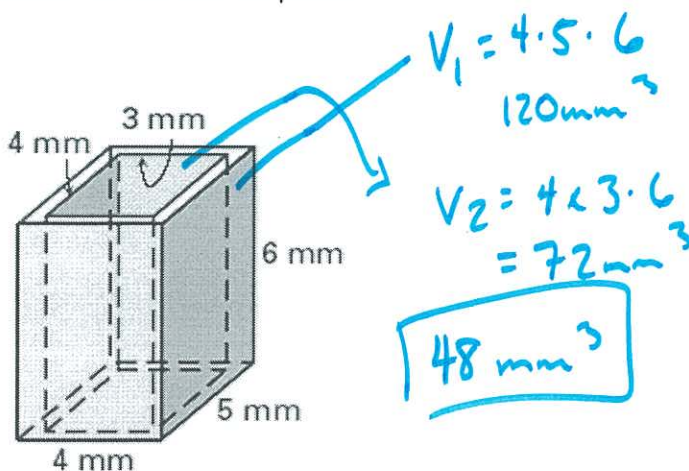
$$10 \cdot 8 \cdot 4 = 320 \text{ in}^3$$

$$2^3 = 8 \text{ in}^3$$

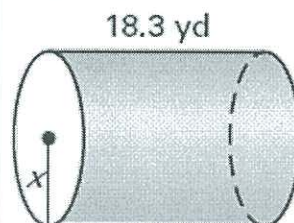
$$\frac{320}{8} = 40$$

- A. 24  
B. 32  
C. 40  
D. 320

- 5) Find the volume of rectangular prism. Round your answer to two decimal places.



- 6) Find the length  $x$  using the given volume  $V$ .  
 $V = 3148 \text{ yd}^3$



$$3148 = \pi r^2 \cdot L$$

$$3148 = \pi r^2 \cdot 18.3$$

$$172.022 = \pi r^2$$

$$\sqrt{154.76} = r^2$$

$$r = 7.4 \text{ yd.}$$

7) Four cubes of ice with an edge 4 cm each are left to melt in a cylindrical glass with a radius of 6 cm. How high will the water rise when they have melted?

$$V_D = 4^3 = 64$$

$$64 = 36\pi \cdot h$$

$$h = .57$$

113.04

8) The height of a cylinder is the same length as the circumference of its base. Its measured height is 125.66 cm. Calculate the surface area and volume of the cylinder.

$$125.66 = 2\pi r$$

$$20 = r$$

$$SA = 2\pi r^2 + 2\pi r \cdot h$$

$$18,304.2$$

$$V = \pi r^2 \cdot h$$

$$157,909 \text{ cm}^3$$

9) A moving company is trying to store boxes in a storage room with a length of 5 m, width of 3 m and height of 2 m. How many boxes can fit in this space if each is 10 cm long, 6 cm wide and 4 cm high?

$$5 \times 3 \times 2 = 30$$

$$30,000,000 \text{ cm}^3$$

10) A swimming pool is 8 m long, 6 m wide and 1.5 m deep. The water resistant paint needed for the pool costs \$6 per square meter.

a. How much will it cost to paint the interior surfaces of the pool?

$$1.5 \times 6 \times 2 = 18$$

$$8 \times 1.5 \times 2 = 24$$

$$\frac{42}{6} = 7$$

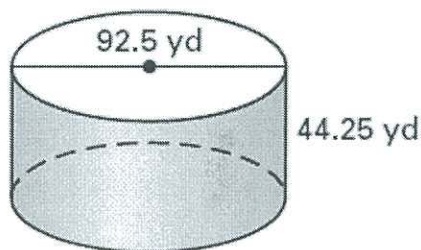
$$+ 252.00$$

b. How many liters of water will be needed to fill it?

$$1.5 \times 8 \times 6 = 72,000$$

$$1 \text{ m}^3 = 1000 \text{ LITERS}$$

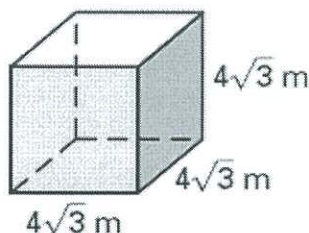
11) Find the volume of the right cylinder. Round your answer to two decimal places.



$$V = \pi r^2 \cdot h$$

$$= 297,363 \text{ yd}^3$$

12) Find the volume of the right prism. Round your answer to two decimal places, if necessary.

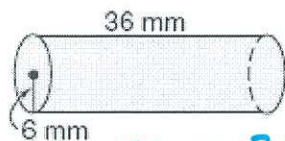


$$(4\sqrt{3})^3$$

$$64 \cdot 3\sqrt{3}$$

$$192\sqrt{3} \text{ OR } 332.55 \text{ m}^3$$

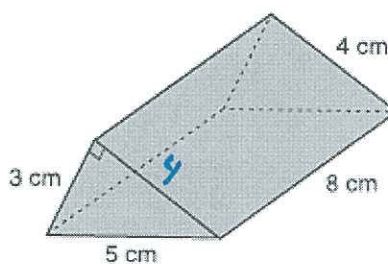
13) Find the volume of the right cylinder. Round your answer to two decimal places.



$$36\pi \cdot 36$$

$$4069.44 \text{ mm}^3$$

14) Find the volume of the figure below. Round to the nearest whole number if necessary.



$$V = \frac{1}{2} \cdot 3 \cdot 4 \cdot 8$$

$$V = 48$$



Name: \_\_\_\_\_ TP: \_\_\_\_\_

HW 81/82: Review  
Geometry. Due April 8/9<sup>th</sup>, 2014

<b>CRS</b>	PPF701 Classify quadrilaterals
<b>Objective</b>	Find the area of a trapezoid.

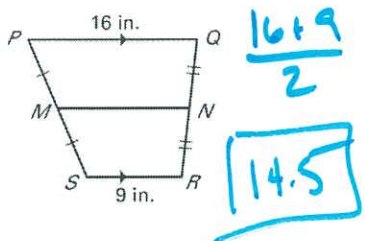
Watch the following videos to answer the first reflection question.

<http://tinyurl.com/GEOMCP81A> AND <http://tinyurl.com/GEOMCP81B>

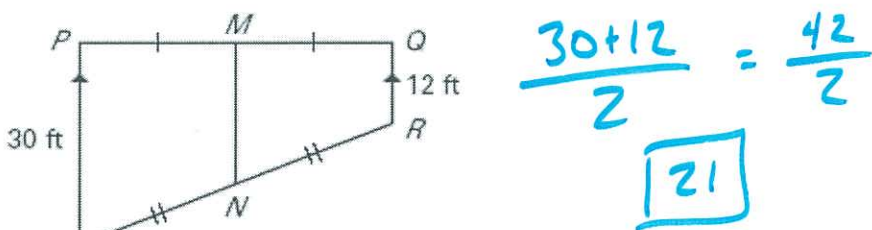
REFLECTION: Why can the midsegment of a trapezoid be calculated by averaging the two bases? Use vocabulary.

THE MIDSEGMENT IS LIKE THE MIDDLE OF THE TWO LINES. TO DO SO YOU AVERAGE THE TWO BASES.

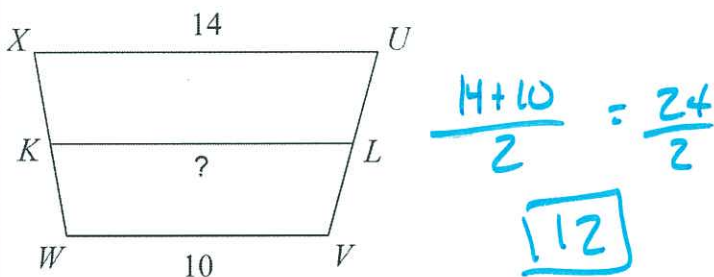
1) In the diagram, MN is the midsegment of trapezoid PQRS. Find MN.



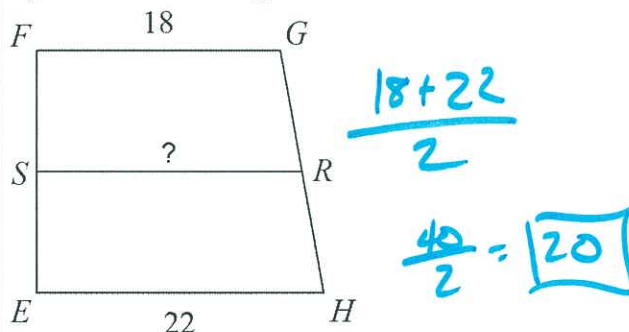
2) Find midsegment MN in the trapezoid.



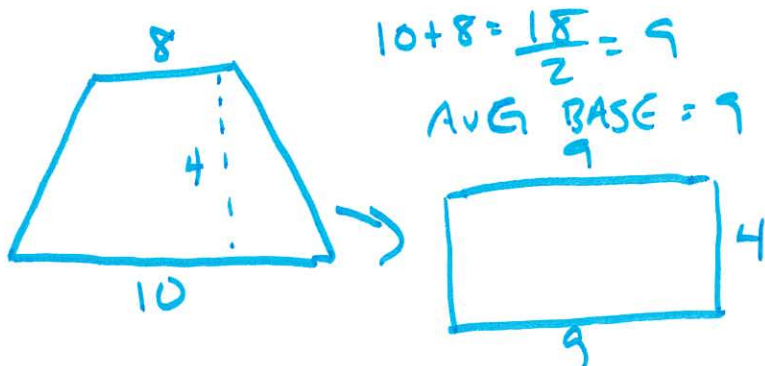
3) Find the midsegment.



4) Find the midsegment.



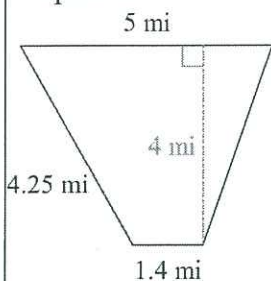
REFLECTION: Explain how the area of a trapezoid formula is derived. Draw a picture if it helps!



AVG THE BASES TO MAKE THE TRAPEZOID A RECTANGLE.

STAY ZESTY!

5) Find the area of the trapezoid:

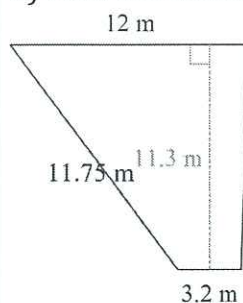


$$\frac{1}{2}(5+1.4) \cdot 4$$

$$3.2 \cdot 4$$

$$\boxed{12.8}$$

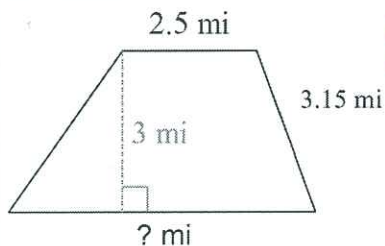
6) Find the area of the trapezoid:



$$A = \frac{1}{2}(12+3.2) \cdot 11.3$$

$$A = 85.88$$

7) Find the missing length of the trapezoid given the area.



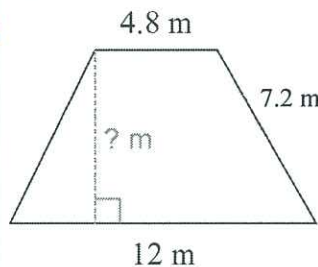
$$12.3 = \frac{1}{2}(2.5+x) \cdot 3$$

$$8.2 = 2.5+x$$

$$5.7 = x$$

$$\text{Area} = 12.3 \text{ mi}^2$$

8) Find the missing length of the trapezoid given the area.



$$\frac{1}{2}(4.8+12) \cdot h = 57.1$$

$$13.8h = \underline{108.2}$$

$$h = 7.84$$

$$\text{Area} = 57.1 \text{ m}^2$$

9) If the area of a trapezoid is 39 square yards, base 1 is 10 yards, and base 2 is 16 yards, what is the height  $h$  of the trapezoid?

$$39 = \frac{1}{2}(10+16)h$$

$$\frac{39}{13} = \frac{13h}{13}$$

$$3 = h$$

10) If the area of a trapezoid is 24 square inches, 1 base measures 8 inches and the height measures 4 inches, what is the measure of the second base  $b$ ?

$$24 = \frac{1}{2}(8+x) \cdot 4$$

$$12 = 8+x$$

$$4 = x$$

11) True or False. If false, explain why.

T or F - All squares are rhombi

**T**

T or F - All rhombi are squares.

**F A RHOMBUS IS NOT A SQUARE WHENEVER THE ANGLES AREN'T 90°**

T or F - Diagonals are congruent in both squares and rectangles.

**T**

T or F - Rectangles are always parallelograms.

**T**

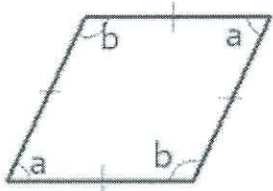
T or F - Parallelograms are always rectangles.

**F WHENEVER THE ANGLES AREN'T 90°**

STAY ZESTY!



1) If the  $m\angle a = 70^\circ$ , what is the  $m\angle b$ ?



$$180 - 70 = 110$$

2: One side length of a rhombus measures  $8x + 4$  feet. Another side length measures  $4x + 18$  feet. What is the value of  $x$ ? Explain why you solved for  $x$  the way that you did.

$$\begin{aligned} 8x + 4 &= 4x + 18 \\ 4x &= 14 \\ x &= 3.5 \end{aligned}$$

3) The measure of the obtuse angle of a rhombus is  $110^\circ$ . What is the measure of the acute angle?

$$70$$

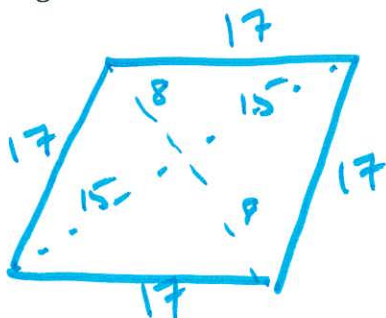
4) One side length of a rhombus measures  $\frac{1}{2}x - 6$  feet. Another side length measures  $2x - 10$  feet. What is the value of  $x$ ? Explain why you solved for  $x$  the way that you did.

$$\begin{aligned} \frac{1}{2}x - 6 &= 2x - 10 \\ 4 &= 1.5x \\ \frac{4}{1.5} &= \frac{1.5x}{1.5} \\ 2.67 &= x \end{aligned}$$

ALL SIDES ARE THE SAME.

5) One diagonal of a rhombus is 30 cm and the other is 16 cm.

a. How long is each side of the rhombus?



$$64 + 225 = 289$$

b. Find the perimeter.

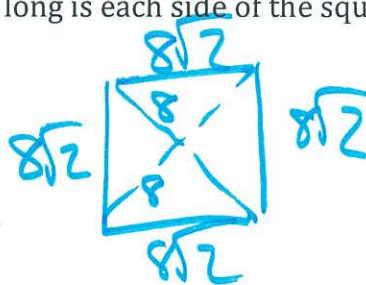
$$68$$

c. Find the area.

$$\frac{1}{2}(30)(16) = 240$$

6) The diagonal of a square is 16 inches.

a. How long is each side of the square?



b. Find the perimeter.

$$32\sqrt{2}$$

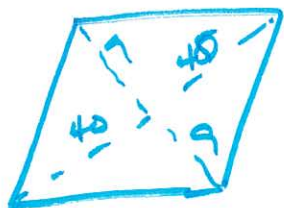
c. Find the area.

$$\begin{aligned} (8\sqrt{2})^2 \\ 64 \cdot 2 &= 128 \end{aligned}$$

STAY ZESTY!

7) One diagonal of a rhombus is 18 inches and the other is 80 inches.

a. How long is each side of the rhombus?



$$\begin{aligned} 81 + 1600 &= c^2 \\ \sqrt{1681} &= c \\ 41 &= c \end{aligned}$$

b. Find the perimeter.

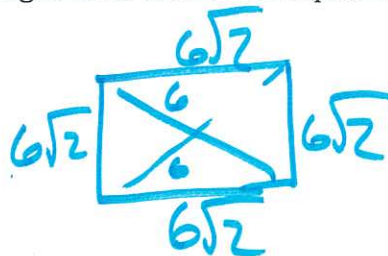
$$4(41) = 164$$

c. Find the area.

$$\frac{1}{2}(80)(18) = 720$$

8) The diagonal of a square is  $12\sqrt{2}$  cm.

a. How long is each side of the square?



b. Find the perimeter.

$$4s$$

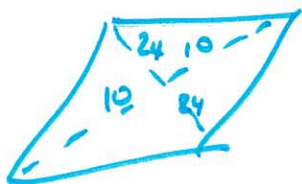
c. Find the area.

$$\begin{aligned} (s)^2 \\ 36 \cdot 2 \\ \hline 72 \end{aligned}$$

9) The lengths of the diagonals of a rhombus are 20 and 48 meters. A) Find the perimeter of the rhombus. B) Find the area of the rhombus.

$$B) \frac{1}{2}(20)(48) = 480$$

A)

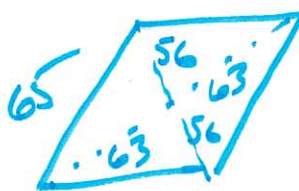


$$\begin{aligned} 100 + 576 &= c^2 \\ \sqrt{676} &= c \\ 26 &= c \end{aligned}$$

10) The perimeter of a rhombus is 260 feet and one of its diagonals has a length of 126 feet. Find the area of the rhombus.

$$\frac{260}{4} = 65$$

$$112$$



$$63^2 + x^2 = 65^2$$

$$x^2 = \sqrt{3136}$$

$$\begin{aligned} 4225 \\ -1089 \\ \hline 3136 \end{aligned}$$



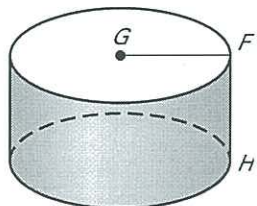
NAME: \_\_\_\_\_ TP: \_\_\_\_\_

HW#83 Surface Area of Prisms and Cylinders

Geometry: DUE Friday, April 10<sup>th</sup>, 2014

Failure to show all work and write in complete sentences will result in a LaSalle!

1) Use the diagram at the below.



a. Give the mathematical name of the solid.

RIGHT CYLINDER

b. What kind of figure is each base?

CIRCLE

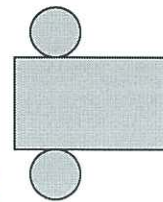
c. Name the radius of the solid.

GF

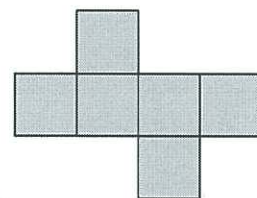
d. Name the height of the solid.

FH

2) Name the solid that can be formed by the net.

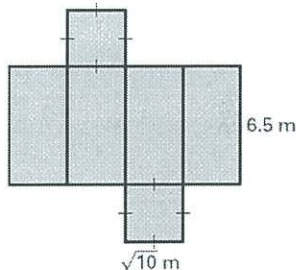


a. RIGHT CYLINDER



b. CUBE

3) Find the surface area of the solid formed by the net. Round your answer to two decimal places.

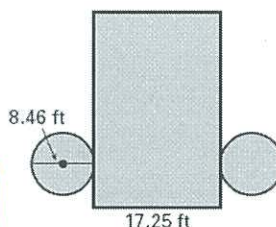


$$A_{\square} = 20$$

$$A_{\square} = 82.22$$

$$102.22 \text{ m}^2$$

4) Find the surface area of the solid formed by the net. Round your answer to two decimal places.



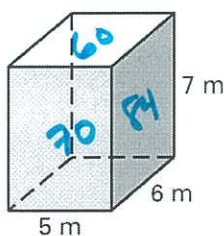
$$C = 8.46\pi$$

$$A_{\square} = 8.46\pi \cdot 17.25 = 458.47 \text{ ft}^2$$

$$A_{\text{circles}} = \pi r^2 = 56.2 \text{ ft}^2$$

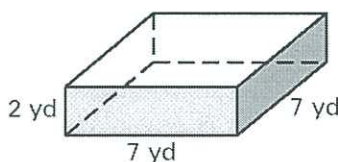
$$570 \text{ ft}^2$$

5) Find the surface area of the right prism. Round your answer to two decimal places.



$$214 \text{ m}^2$$

6) Find the surface area of the right prism. Round your answer to two decimal places.

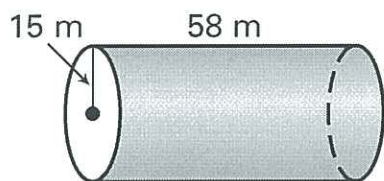


$$7 \cdot 7 \cdot 2 = 98$$

$$7 \cdot 2 \cdot 4 = 56$$

$$154$$

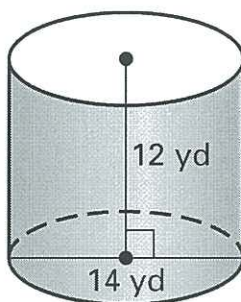
7) Find the surface area of the right cylinder. Round your answer to two decimal places.



$$2190\pi$$

$$\text{or } \approx 6880.09 \text{ m}^2$$

8) Find the surface area of the right cylinder. Round your answer to two decimal places.

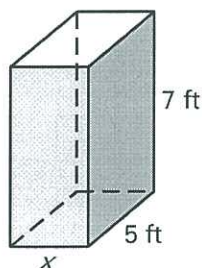


$$266\pi \text{ yd}^2$$

$$\approx \del{835.66} \del{\text{yd}^2}$$

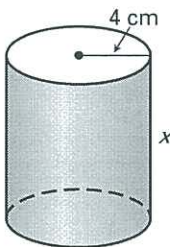
$$835.66 \text{ yd}^2$$

9) Solve for  $x$  given the surface area  $S$  of the right prism or right cylinder. Round your answer to two decimal places.  $S = 142 \text{ ft}^2$



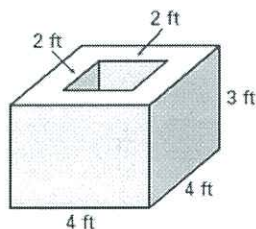
$$x = 4.75$$

10) Solve for  $x$  given the surface area  $S$  of the right prism or right cylinder. Round your answer to two decimal places.  $S = 326.73 \text{ cm}^2$



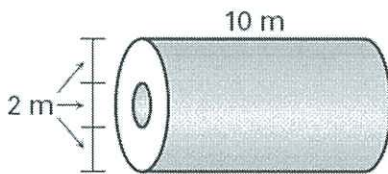
$$\begin{array}{r} 326.73 \\ - 32\pi \\ \hline 226.2 \\ \hline 8\pi = 9.00 \text{ cm} \end{array}$$

11) Find the surface area of the solid. Round your answer to two decimal places.



$$96 \text{ ft}^2$$

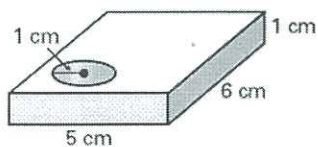
12) Find the surface area of the solid. Round your answer to two decimal places.



$$96\pi$$

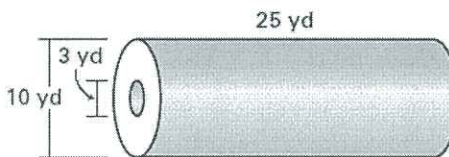
$$301.6 \text{ m}^2$$

13) Find the surface area of the solid. Round your answer to two decimal places.



$$182 \text{ cm}^2$$

14) Find the surface area of the solid. Round your answer to two decimal places.



$$370.5\pi$$

$$1163.46 \text{ yd}^2$$



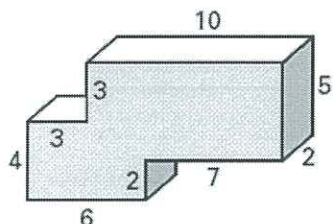
NAME: \_\_\_\_\_ TP: \_\_\_\_\_

HW#84 Volume of Prisms and Cylinders

Geometry: DUE Monday, April 13<sup>th</sup>, 2014

Failure to show all work and write in complete sentences will result in a LaSalle.

- 1) Find the volume of the solid by determining how many unit cubes are contained in the solid.



$$182 - 28 - 18 = 135 \text{ units}$$

- 2) Find the volume of the right cylinder. Round your answer to two decimal places.

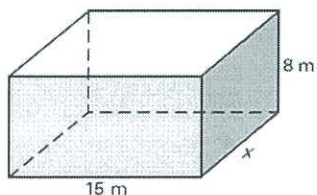


$$V = 276.46 \text{ cm}^3$$

Find the surface area:

$$301.6 \text{ cm}^2$$

- 3) Find the length  $x$  using the given volume  $V$ .  $V = 1440 \text{ m}^3$

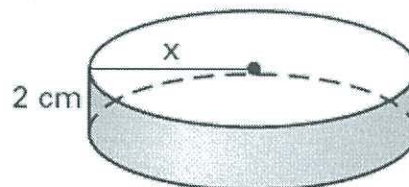


$$x = 12 \text{ m}$$

Find the surface area.

$$792 \text{ m}^2$$

- 4) Find the length  $x$  using the given volume  $V$ .  $V = 72\pi \text{ cm}^3$

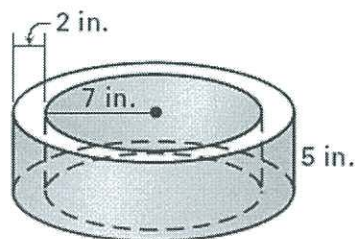


$$x = 6$$

Find the surface area.

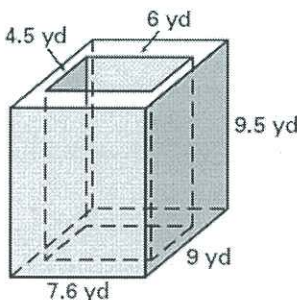
$$301.6 \text{ cm}^2$$

- 5) Find the volume of right cylinder. Round your answer to two decimal places.



$$502.66 \text{ in}^3$$

- 6) Find the volume of rectangular prism. Round your answer to two decimal places.



$$393 \text{ yd}^3$$